

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended) A method for manufacturing a printed wiring board, including the steps of: forming a thermosetting resin layer so as to fill spaces between circuit patterns formed on a surface of the printed wiring board; heating and curing the resin layer in a ~~reduced pressure chamber in which a pressure is reduced, while a smoothing plate is pressed against the resin layer~~; and then polishing said cured resin layer covering said circuit patterns, thereby exposing said circuit ~~patterns~~, ~~wherein said step of heating and curing said resin layer comprises in said reduced pressure chamber, comprising the following steps being successively performed:~~

- maintaining said resin layer at a non-curable temperature ~~to prevent the resin layer from curing in a state where said resin layer is pressed via a said smoothing plate in a said reduced pressure environment chamber~~ (step 1);
- heating said resin layer in said pressed state to a curing temperature at which said resin layer is cured (step 2);
- introducing outside air to eliminate into said reduced pressure environment while maintaining chamber with said pressed state and said curing temperature maintained (step 3);
- reducing the pressure applied to said smoothing plate while maintaining with said curing temperature maintained (step 4); and
- cooling said resin layer (step 5).

Claim 2 (Currently Amended) The method for manufacturing a printed wiring board according to claim 1, wherein in said step 1, the applied pressure of the smoothing plate is increased in ~~stages~~ predetermined steps.

Claim 3 (Currently Amended) The method for manufacturing a printed wiring board according to claim 1 ~~or claim 2~~, wherein said resin layer is formed by adhereing ~~having a liquid resin adhere to~~ said printed wiring board so as to fill spaces between said circuit patterns, and wherein a metallic foil with a roughened surface facing said resin layer is superposed on the resin layer.

Claim 4 (Currently Amended) The method for manufacturing a printed wiring board according to claim 1 ~~or claim 2~~, wherein said resin layer is formed by superposing ~~having a~~ semi-cured resin sheet ~~superposed on~~ the printed wiring board, and wherein a metallic foil with a roughened surface facing said resin layer is superposed on the resin layer.

Claim 5 (Currently Amended) The method for manufacturing a printed wiring board according to claim 3 ~~or claim 4~~, wherein said metallic foil is formed with a metal of a different type of metal than ~~kind from~~ said circuit patterns.

Claim 6 (New) The method for manufacturing a printed wiring board according to claim 4, wherein said metallic foil is formed with a different type of metal than said circuit patterns.

Claim 7 (New) The method for manufacturing a printed wiring board according to claim 1 wherein said reduced pressure environment is provided by a reduced pressure chamber.

Claim 8 (New) The method for manufacturing a printed wiring board according to claim 1, wherein said resin layer is formed by adhering a liquid resin to said printed wiring board so as to fill spaces between said circuit patterns, and wherein a metallic foil with a roughened surface facing said resin layer is superposed on the resin layer.

Claim 9 (New) The method for manufacturing a printed wiring board according to claim 8, wherein said metallic foil is formed with a different type of metal than said circuit patterns.

Claim 10 (New) The method for manufacturing a printed wiring board according to claim 2, wherein said resin layer is formed by superposing a semi-cured resin sheet on the printed wiring board, and wherein a metallic foil with a roughened surface facing said resin layer is superposed on the resin layer.

Claim 11 (New) The method for manufacturing a printed wiring board according to claim 10, wherein said metallic foil is formed with a different type of metal than said circuit patterns.

Claim 12 (New) A method for manufacturing a printed wiring board including a resin layer filling spaces between and upon circuit patterns formed on a surface of the printed wiring board where the heating and curing of the resin layer includes the following steps:

- pressing said resin layer via a smoothing plate in a reduced pressure chamber while maintaining said resin layer at a non-curable temperature and a reduced pressure environment;

- heating said resin layer at a curing temperature while maintaining the pressing state and the reduced pressure environment;

- eliminating reduced pressure environment by allowing air to enter the reduced pressure chamber while maintaining the pressing state and the curing temperature;

- reducing the pressure applied to said resin layer via the smoothing plate while maintaining the curing temperature;

- cooling the resin layer; and

- polishing the resin layer to expose the circuit patterns.

Claim 13 (New) The method for manufacturing a printed wiring board according to claim 12, wherein the pressure applied to the resin layer via the smoothing plate increased in incremental stages.

Claim 14 (New) The method for manufacturing a printed wiring board according to claim 12, wherein a metallic foil with a roughed surface facing said resin layer is superposed on the resin layer and wherein the metallic foil is removed prior to polishing the resin layer.

Claim 15 (New) The method for manufacturing a printed wiring board according to claim 14, wherein the metallic foil is formed with a different type of material than the circuit patterns.

Claim 16 (New) The method for manufacturing a printed wiring board according to claim 14, wherein the resin layer is a semi-cured thermosetting resin sheet superposed on the printed wiring board.

Claim 17 (New) The method for manufacturing a printed wiring board according to claim 14, wherein the resin layer is a liquid thermosetting resin adhered to the printed wiring board so as to fill in the spaces between the circuit patterns and to substantially cover the circuit patterns.

Claim 18 (New) A method for manufacturing a printed circuit board including:

- applying a resin layer via a coating method to a printed wiring board containing wiring patterns;
- superposing a metal foil over the resin layer and printed wiring board;
- applying pressure to the metal foil via a smoothing plate in a reduced pressure environment at a non-curing temperature of the resin;
- heating the resin layer at a curing temperature of the resin while maintaining the pressure applied to the metal foil and the reduced pressure environment;
- raising a pressure of the reduced pressure environment while maintaining the pressure applied to the metal foil and the curing temperature;
- reducing the pressure applied to the metal foil while maintaining the curing temperature;
- cooling the printed wiring board;
- removing the metal foil layer; and
- polishing the resin layer so as to expose the wiring patterns.

Claim 19 (New) The method for manufacturing a printed wiring board according to claim 18 wherein the pressure applied to the metal foil layer is increased in predetermined stages.